



CASISTM

COMMERCIAL SPACE RESEARCH OPPORTUNITIES

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CASIS BACKGROUND



- ▲ **2005** – Congress designated the U.S. portion of the International Space Station as a National Laboratory
- ▲ **2010** – NASA Authorization Act extended ISS operations until at least 2020, directed NASA to establish a NGO management partner for the National Laboratory
- ▲ **2011** – Cooperative Agreement Notice issued, CASIS selected in July, operations commenced August 31
- ▲ CASIS serves as the sponsor for non-NASA science and Technology Payloads destined for the ISS National Laboratory

CASIS MISSION



- ▲ Maximize the value of the ISS to the Nation through research utilization, STEM, and outreach
- ▲ Establish and prioritize the most promising and diverse research pathways
- ▲ Provide a pathway to the ISS for commercial, academic, other government agencies



CASIS™

YOUR GATEWAY TO THE ISS U.S. NATIONAL LAB



BROKERS ON STATION RESEARCH

BREAKS DOWN BARRIERS TO SPACE

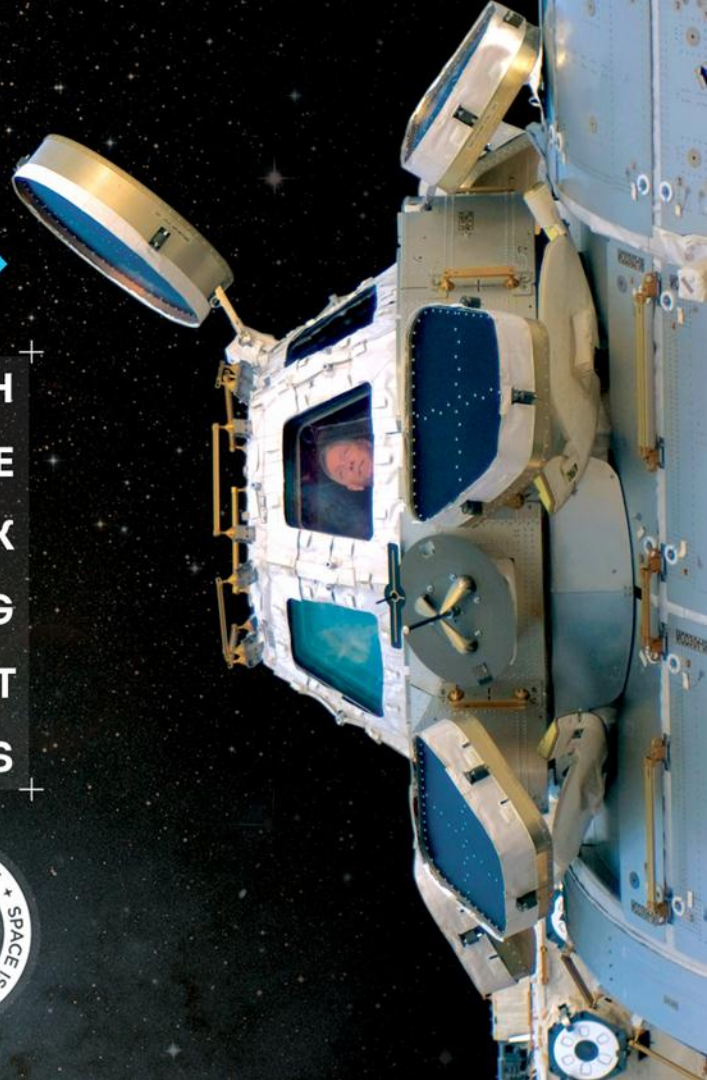
ASSISTS WITH BUREAUCRACY AND PAPERWORK

CONNECTS RESEARCH, HARDWARE AND FUNDING

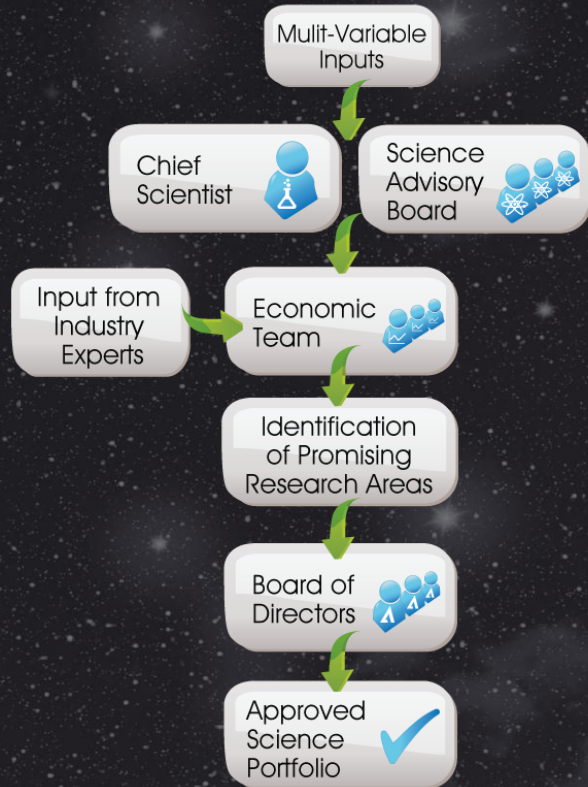
MANAGES "SPACE IS IN IT" PRODUCT ENDORSEMENT

ALIGNS BRANDS WITH SPACE & STEM ACTIVITIES

CASIS IS ENABLING THE COMMERCIAL SPACE ERA...



RESEARCH PORTFOLIO

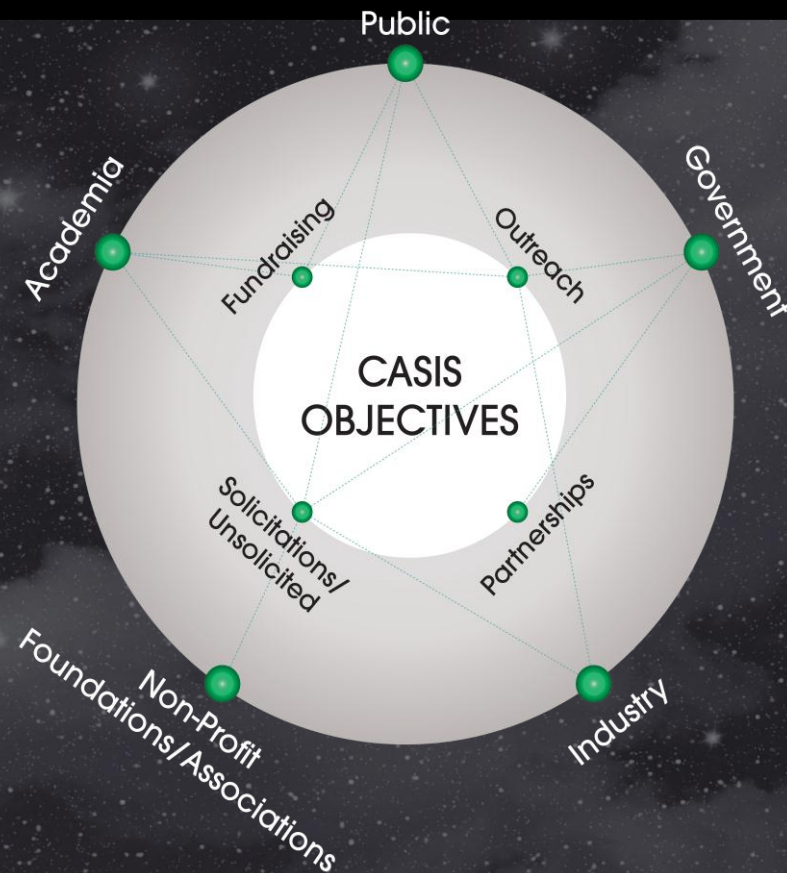


- ▲ Identify novel and potentially commercially promising capabilities of the ISS National Lab
- ▲ Assess addressable marketplace size, validate marketplace interest and the time to translate the resultant benefits to stakeholders
- ▲ Approve and execute research portfolios

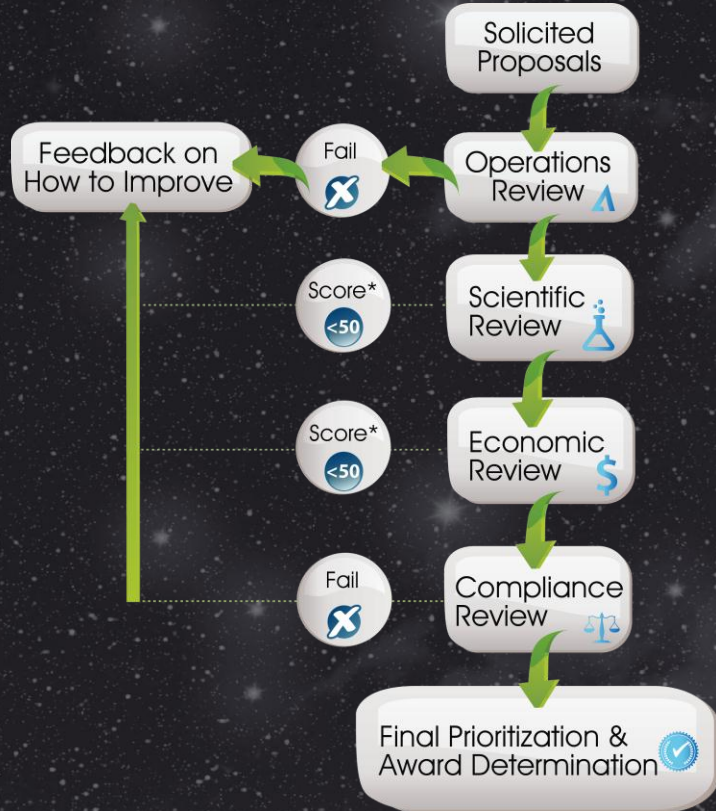
CASIS OPPORTUNITY CAPTURE STRATEGY



- ▲ CASIS Board of Directors approves portfolio options
- ▲ Business Development team creates tailored strategic mini-plans
 - Example of Opportunity: Muscle Wasting and ALS (Lou Gehrig's Disease)



EVALUATION & PRIORITIZATION PROCESS



- 1 Operations team assesses technical feasibility
- 2 Evaluation by the scientific project selection panel (PSP), an external panel of subject matter experts, to score scientific merit and potential impact
- 3 Evaluation by the economic PSP to assess tangible and intangible value to taxpayer (ROI assessment)
- 4 Legal and Compliance team reviews regulatory, compliance, IP, ect.
- 5 Executive Director, Chief Scientist, and Chief Economist approve final award and prioritization determinations

UNSOLICITED PROPOSALS



- ▲ CASIS engages both traditional and non-traditional partners to conduct novel research on the ISS National Lab
- ▲ Unsolicited proposals provide an opportunity for projects to be conducted aboard the National Lab
- ▲ To date, over 25 formal unsolicited proposals have been submitted to CASIS via business development, operations, science or some other CASIS department

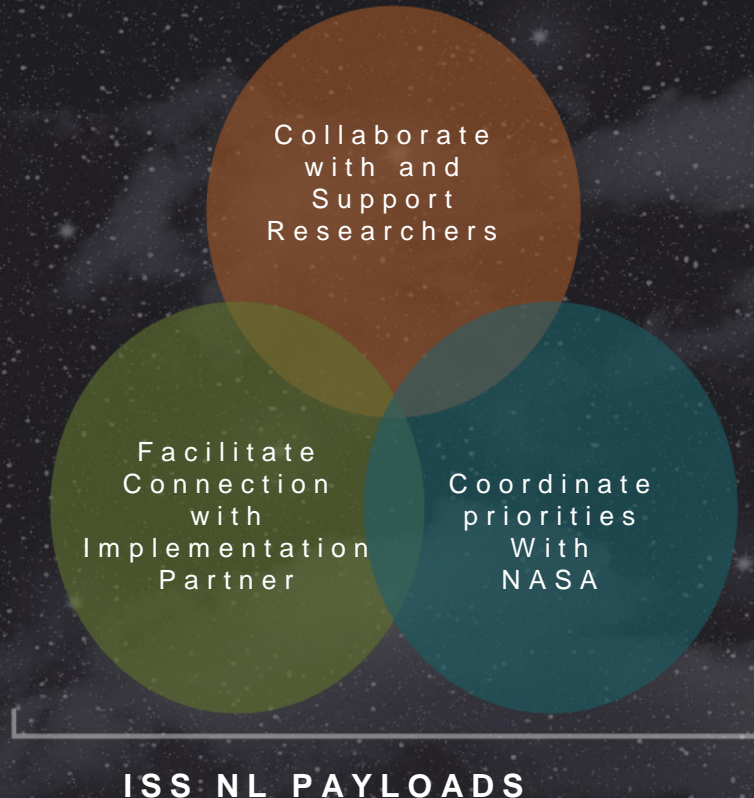
CASIS VALUE CHAIN



CASIS Provides a full service organization to efficiently provide space based research access to the ISS National Laboratory

This Includes:

- Previous Research Database Access
- Experiment Design Assistance
- Payload Integration Services
- Preflight/Post Flight Laboratory Access
- Transportation to and from the NL
- Collaborative Funding Opportunities



- ▲ Released first solicitation in June, 2012 focused on protein crystallization in microgravity
- ▲ Received 16 research proposals
- ▲ 7 proposals passed the full review process:
 - Three were funded with budgeted grant funding in Nov. 2012
 - Two were awarded in Dec. with budget under run
 - Currently looking for creative financing solutions for remaining two passing proposals



LIFE SCIENCES CONT.



- ▲ Planning RFP in area of non-embryonic stem cell research
 - Release date: March or April, 2013

- ▲ Osteoporosis and Muscle Wasting are limited by currently available hardware
 - Mouse model currently in development with larger volume of mice and potential live return capability

- ▲ Plant Biology:
 - Dr. Charles Guy performed review of relevant plant research
 - Not great commercial potential
 - CASIS will remain opportunistic with plant research and are funding an unsolicited proposal

MATERIALS SCIENCE



- ▲ Released broad RFP to academic and commercial community to access the external platform on the ISS
 - Issued: September 2012
- ▲ Received 10 research proposals
 - 9 passed operations review
 - Three passed science panel review and are currently in economic review
- ▲ Anticipated award announcement: March 2013



EARTH OBSERVATION/REMOTE SENSING



- ▲ McKinsey & Co. currently doing a study on Earth Observation and Remote Sensing
 - Anticipated final report: February/March, 2013
- ▲ Announced a RFI to gauge commercial interest in using the Hyperspectral Imager for the Coastal Ocean (HICO)
 - 9 responses received
 - CASIS has converted two promising responses into formal proposals





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QUESTIONS?